

I claim:

1. A solid fertilizer composition comprising: a granular admixture of humate and a phosphate source which has been pressed together in a granular form, wherein the concentration of said humate is equal to or greater than 5% by weight of the final composition and the concentration of said phosphate source is equal to or greater than 5% by weight of the final composition, the balance being selected from the group consisting of binders, inoculants, plant nutrient sources, microorganism nutrient sources, iron, phosphate-solubilizing agents, chelating agents, and combinations thereof.
2. A solid fertilizer composition of claim 1, further comprising a moisture barrier agent coated on said granular admixture.
3. A solid fertilizer composition comprising a granular admixture having the composition of:
  - a. from 5% to 90% by weight of a phosphate source;
  - b. from 5% to 90% by weight of a humate; and
  - c. the balance selected from the group consisting of binders, inoculants, plant nutrient sources, microorganism nutrient sources, iron, phosphate-solubilizing agents, chelating agents, coating agents and combinations thereof.
4. The fertilizer composition of claim 3, further comprising at least one carbohydrate-containing binding agent.
5. The fertilizer composition of claim 3, further comprising a phosphate-solubilizing microorganism inoculant.
6. The fertilizer composition of claim 4, further comprising a phosphate-solubilizing microorganism inoculant.
7. The fertilizer composition of claim 1, 2, 3, 4, 5 or 6, wherein said phosphate source is natural rock phosphate.
8. The fertilizer composition of claim 7, wherein said humate and natural rock phosphate are combined in a ratio within the range of from 1:1 to 5:1 by weight.

9. The fertilizer composition of claim 1, 2, 3, 4, 5 or 6, wherein said phosphate source is monoammonium phosphate.

10. The fertilizer composition of claim 9, wherein said humate and monoammonium phosphate are combined in a ratio within the range of 3:1 to 2:1 by weight.

11. A solid fertilizer composition comprising a granular admixture having the composition of :

- a. from 10% to 80% by weight of a phosphate source;
- b. from 20% to 80% by weight of a humate; and
- c. the balance selected from the group consisting of binders, inoculants, plant nutrient sources, microorganism nutrient sources, iron, phosphate-solubilizing agents, chelating agents, coating agents and combinations thereof.

12. A solid fertilizer composition comprising a granular admixture having the composition of :

- a. from 5% to 60% by weight of a phosphate source;
- b. from 35% to 65% by weight of a humate; and
- c. the balance selected from the group consisting of binders, inoculants, plant nutrient sources, microorganism nutrient sources, iron, phosphate-solubilizing agents, chelating agents, coating agents and combinations thereof.

13. A fertilizer composition comprising a granulized admixture of at least 5% by weight of a phosphate source and at least 1.5% by weight of humic acid equivalent.

14. A solid fertilizer composition comprising a granular admixture having the composition of:

- a. from 5% to 90% by weight of a phosphate source;
- b. from 1% to 63% by weight of a humate; and
- c. the balance selected from the group consisting of binders, inoculants, plant nutrient sources, microorganism nutrient sources, iron, phosphate-solubilizing agents, chelating agents, coating agents and combinations thereof.

15. A solid fertilizer composition comprising a granular admixture having the composition of:

- a. from 10% to 80% by weight of a phosphate source;
- b. from 1 % to 56% by weight of a humic acid equivalent; and
- c. the balance selected from the group consisting of binders, inoculants, plant nutrient sources, microorganism nutrient sources, iron, phosphate-solubilizing agents, chelating agents, coating agents and combinations thereof.

16. A solid fertilizer composition comprising a granular admixture having the composition of:

- a. from 5% to 60% by weight of a phosphate source;
- b. from 1.5% to 42% by weight of a humic acid equivalent; and
- c. the balance selected from the group consisting of binders, inoculants, plant nutrient sources, microorganism nutrient sources, iron, phosphate-solubilizing agents, chelating agents, coating agents and combinations thereof.

17. A solid fertilizer composition comprising 47.95% humate by weight of the final product, 47.95% natural rock phosphate by weight of final product, 4% iron oxide ore by weight of the final product, and about 0.1% carbohydrate-containing binding agent by weight of the final product.

18. A solid fertilizer composition comprising 47.9% humate by weight of the final product, 47.9% natural rock phosphate by weight of final product, 4% iron oxide ore by weight of the final product, about 0.1% carbohydrate-containing binding agent by weight of the final product, and 0.1% microorganism inoculant by weight of the final product.

19. A solid fertilizer composition comprising 70.95% humate by weight of the final product, 24.95% monoammonium phosphate by weight of final product, 4% iron oxide ore by weight of the final product, and about 0.1% carbohydrate-containing binding agent by weight of the final product.

20. A solid fertilizer composition comprising 70.9% humate by weight of the final product, 24.9% monoammonium phosphate by weight of final product, 4% iron oxide ore by

weight of the final product, about 0.1% carbohydrate-containing binding agent by weight of the final product, and 0.1% microorganism inoculant by weight of the final product.

21. A process for producing a granular fertilizer composition comprising:
  - a. admixing a humate and a phosphate source while maintaining the temperature of the mixture below 100 degrees C; and
  - b. forming granules from said admixture by pressing said admixture together while maintaining the temperature of the admixture below 100 degrees C.

22. The process of claim 21, wherein the temperature is held below 80 degrees C.

23. The process of claim 21, wherein the temperature is held below 65.6 degrees C.

24. A process for producing a granular fertilizer composition comprising:
  - a. admixing at least 1.5% humic acid by weight of final product and a phosphate source while maintaining the temperature of the mixture below 100 degrees C; and
  - b. forming granules from said admixture by pressing said admixture together while maintaining the temperature of the admixture below 100 degrees C.

25. The process of claim 24, wherein the temperature is held below 80 degrees C.

26. The process of claim 24, wherein the temperature is held below 65.6 degrees C.

27. A process for producing a granular fertilizer composition comprising:
  - a. admixing at least 1.5% humic acid by weight of final product and a phosphate source while maintaining the temperature of the mixture below 100 degrees C to form an admixture;
  - b. pressing said admixture together at a pressure between 175.8 and 246.1 kilogram-force per square centimeter while maintaining the temperature of the admixture below 100 degrees C; and
  - c. breaking the resultant product of step b into granules.

28. The process of claim 27, further comprising screening said granules of step c to a predetermined size range while maintaining the temperature at less than 80 degrees C.

29. The process of claim 24, 25, 26, 27 or 28, further comprising applying a water repellant coating agent to said granules.

30. A process for producing a granular fertilizer composition comprising:
- a. admixing at least 1.5% humic acid by weight of final product and a phosphate source while maintaining the temperature of the mixture below 80 degrees C to form an admixture;
  - b. pressing said admixture together at a pressure between 175.8 and 246.1 kilogram-force per square centimeter while maintaining the temperature of the admixture below 80 degrees C; and
  - c. breaking the resultant product of step b into granules.
31. The process of claim 30, further comprising screening said granules of step c to a predetermined size range while maintaining the temperature at less than 65.6 degrees C.
32. The process of claim 30 or 31, further comprising applying a water repellant coating agent to said granules.
33. A process for producing a granular fertilizer composition comprising:
- a. admixing from 10% to 80% by weight of a phosphate source, from 20% to 80% by weight of a humate, and the balance selected from the group consisting of binders, inoculants, plant nutrient sources, microorganism nutrient sources, iron, phosphate-solubilizing agents, chelating agents, coating agents and combinations thereof to form an admixture while maintaining the temperature below 100 degrees C; and
  - b. pressing said admixture together at a pressure between 175.8 and 246.1 kilogram-force per square centimeter while maintaining the temperature of the mixture below 100 degrees C.
34. The process of claim 33, further comprising breaking the resultant product of step b into granules while maintaining the temperature at less than 100 degrees C.
35. The process of claim 33 or 34 wherein the temperature is held below 80 degrees C.
36. The process of claim 33 or 34 wherein the temperature is held below 65.6 degrees C.
37. A product produced by the process of claim 21, 24, 27, 30, or 33.